

1-27-04

Dear Potential Desert Tortoise Caregiver:

Thank you for your interest in adopting a Desert Tortoise. Please give considerable thought to being a caregiver before you apply. Once a Desert Tortoise is removed from its desert home it may never be returned to the wild and must live in a domestic environment.

We ask that you read the following information carefully and determine whether or not you are able to provide the yard enclosure a Desert Tortoise requires, as well as the necessary care and treatment.

If you decide to apply for a Desert Tortoise, please fill out the enclosed application and return it when your enclosure is ready for a site visit by an experienced volunteer. Once it passes inspection, we will arrange for you to pick up your tortoise and receive your transfer documentation.

If desired, we will implant Avid Chips TM in the left rear leg of your Desert Tortoise, so in the event it becomes lost and then found it can be scanned by various animal care agencies or veterinarians. Your tortoise can be traced back to the Game & Fish Department and returned to you. The donation for the chip is \$12.00 and is strongly recommended.

Arizona Game and Fish Department Regulations

A.R.S. Sec. 17-306-Importation, transportation, release or possession of live wildlife:

No person shall import or transport into the state or sell, trade or release within the state or have in his possession any live wildlife except as authorized by the commission or as defined in title 3, chapter 16.

Commission Order 43

G: *There is no open season on *Gopherus agassizii* (desert tortoise).*

R12-4-407.1: *Desert tortoises *Xerobates (Gopherus) agassizii* possessed without a special license prior to April 28, 1989, may be possessed, transported, and given away. Desert tortoises possessed pursuant to this rule may be propagated, and progeny may be held in captivity for 24 months from the date of hatching, when they shall be disposed of by gift or as directed by the Department. The person receiving a desert tortoise given away pursuant to this rule is also exempt from special license requirements.*

Note 3: *Possession limit is one desert tortoise per person.*

The Adobe Mountain Wildlife Rehabilitation Center will accept desert tortoises that can no longer be cared for by adoptive families. Typically, this occurs when adoptive families leave the State or the owner passes away. **Remember that it is illegal to release a desert tortoise into the wild or in the city.** Thank you for your interest in the Desert Tortoise Adoption Program. Don't hesitate to call if you should have any questions. Our phone number is 623-582-9806.

Attachment # 1

1/20/04

General Requirements Summary

Desert tortoises have been removed from the wild for several decades and presently there is a growing urban population. These creatures are very long-lived and those considering adoption should be aware that their commitment is to an animal that has the normal life span of 60+ years. There are some basic requirements that are outlined in this packet. For security reasons, we do not adopt out to persons who can only place the Tortoise in front yards.

First, the fence around the yard must have a footing. Also, dogs and pools constitute a deadly threat to the desert tortoise. From our experience, we know that dogs and other animals must be fenced separately from the tortoises. Your pool and spa must be separately fenced to the ground or deck. If fencing is not at deck edge it must be extended under ground. Fencing must be 16 inches high. If fence is not cement block with a footing, the fence must be extended to at least one foot underground with cement or ¼ inch or ½ inch wire mesh. Leave a small portion open so the site visitor can observe the fence addition. Gates should be self-closing and a barrier 16 inches high across the gate opening. The barrier may be mobile but must be heavy, such as cement block or a second short fence that can stay locked to step over and unlock when necessary.

We provide guidelines as well as examples on constructing dens, (see attachment #3 “Examples of Den Design” as well as attachment # 2 entitled “General Considerations For Den Designs”. The total minimum area for an adult desert tortoise should be about 18’ x 18’ and this area must include a Bermuda Tiff Green grass section of at least 6 feet by 6 feet. Bermuda Tiff Green grass is an excellent diet staple for the tortoise. The tortoise must have permanent sources of shade, sun, water, and dry ground. A hibernation den must be constructed above ground (see attachment # 2 General Considerations For Desert Tortoise Den Designs illustrations, and attachment #3 Desert Tortoise Den Instructions and Illustrations). Terraced areas within the enclosure must be given a ramp so the tortoise can travel without falling.

No dry fertilizer, snail bait, weed or pest sprays or systemic poisons may be used in the enclosure. Pest control spray can kill tortoises, (ask your pest control company to use natural or synthetic pyrethrin sprays that are not harmful to the tortoise). Responsibility for feeding, veterinary care, safety and general well being of the tortoise rests with the adoptive family. Children must understand that the tortoise is a watched, not a played with, animal. Children should not be solely responsible for the care of the tortoise.

Natural History & Identification

The desert tortoise is a dry land turtle in the reptile family. It has tough skin, the legs are heavily scaled and the feet are tough and “elephant like”, rather than webbed, (unlike a turtle, it does not swim). Its’ upper and lower shell (carapace and plastron) are light to medium brown or even black. The carapace is made up of a series of plates called

scutes. An average adult tortoise may measure 24-28 cm (about 10 inches) in shell length and weigh approximately 5000 grams (11 lb).

Care of the Desert Tortoise (*Gopherus Agassizii*)

Providing Shelter

Shelter, particularly the den, is a vital part of the tortoise's daily life. The den function as a buffer between the tortoise and the extreme desert temperatures and helps the tortoise conserve vital moisture. A tortoise must have access to adequate shelter, otherwise it can become severely stressed in winter or summer and die.

Surprisingly, an urban tortoise may not attempt to dig a burrow, because of the hard dirt known as caliche in most yards. The tortoise may not be able to dig to an adequate depth. Places the tortoise chooses to dig may not be safe or healthy, such as where the soil is damp or under a woodpile that may collapse. The den should be in the shade and at the highest and most dry area of the yard. The area inside the den must remain dry year round. Dampness seems to predispose tortoises to respiratory disease that is difficult to cure and often results in death. The desert tortoise is restricted in its choice of den area when it is in captivity. Inspect and pick a proper place for a den yourself.

The den opening should be at least 5 feet from where you water (lawn, trees, flowers, and shrubs); otherwise moisture will eventually seep into it. The den should not be under the eaves, by the gutter down spout, or anywhere the water puddles. A properly constructed and well-placed den should not become wet from rain that falls naturally on the dirt on top of the den or by watering of lawn, plant, shrubs or trees. Just in front of the den, the ground should be mounded up a bit to help keep flooding water from entering. In a yard that is flood irrigated, the den must be at least 8 feet away from and at least 2 foot higher than the area that is being flood irrigated.

Wild tortoises have several burrows of different lengths. Long burrows warm up slowly in the spring so tortoises emerging from winter dormancy often move to shorter burrows that warm up faster. To provide different temperature options during the year, we suggest that you construct at least 2 dens with different orientations, and add a plant such as Fountain Grass somewhere in the enclosure.

If the inside of the den becomes damp at any time of the year, immediately provide a dry den or an artificial substitute for the tortoise. Even in the summer the interior of a damp den may take days to dry unless fully exposed. To check the inside of the den for signs of dampness, use a flashlight at night. During the day, direct reflected sunlight into the den with a mirror. Watch for soil smudged or caked on the tortoises. Consider the reasons the den became damp and make changes accordingly

Diet

The desert tortoise is herbivorous, feeding on native grasses and leafy plants. In captivity they depend on you to provide the correct food, which is vital for good health. Bermuda grass (even when it has turned brown can be nutritious), Globe Mallow, alfalfa, barley, clover and dandelion greens, rose blooms, hibiscus both leaves and blossoms, carrot tops (not the carrot itself) and young mulberry leaves make a good basic diet. Turnip greens and spinach can be offered once a week.

Remember that tortoises are vegetarians. Their digestive system is not designed to digest meat protein. If they are fed high protein foods, kidney, liver and shell damage are likely and can be life threatening. Therefore, do not feed ground meat, dog or cat food or monkey chow. Please, do not feed iceberg lettuce or cabbage, which is mostly water and have little nutritive value. All foods presented should be free of mold or decay. Fruit is not good as it has too much sugar. Potentially, all of their food can be grown in the enclosure. Check all of the plants in your enclosure; many can be poisonous when eaten. See the list of toxic plants in attachment # 4.

Food/Water Presentation

When food is anchored or on a stem, it is easy for the tortoise to tear it off. If food is offered in a dish it should be chopped into small pieces so the tortoise can pick it up, and swallow it. It does not chew its food; it bites off pieces and then swallows them. When offering cut up food on a dish, feed the tortoise on a solid surface or on the grass. If they try to eat a piece that has fallen on the ground, there is a chance they might pick up gravel or sand as this can cause impaction of the gastrointestinal tract. Water should be available in a shallow container such as a plant pot drain tray. The dish should be large enough for the tortoise to soak in. However the water level should not be over the nose. The dish should be cleaned daily. Your tortoise may prefer to drink from a running hose.

Stress

The tortoise can be easily stressed. Signs of stress include: urination, a hissing sound, going into its shell, and decrease in appetite. Although a frightened tortoise can appear aggressive, its defensive posturing is for show only. Tortoises do not bite. Being picked up, dropped, falling on its back, or being relocated into a new home/yard are all stressful. To reduce stress, it should be soaked in tepid shallow water for 30 to 45 minutes after any such experience and especially if it has urinated.

A tortoise should be held in the position as it stands. Never allow the tortoise to remain on its back. The weight of its' internal organs can press on the lungs and suffocate it. Additionally, the stress and the hot sun prevalent in Arizona can kill it within a short time. It is recommended that the tortoise be checked periodically to see that it has not become stuck upside down. This can happen when the animal attempts to climb out of its' enclosure. Providing a larger enclosure will reduce the need to escape and thus reduce episodes where the animal ends up on its' back.

Illness

With good care and husbandry, your tortoise can enjoy a long and healthy life. However, as with any animal, desert tortoises are susceptible to a variety of illnesses. If the tortoise shows signs of illness, you should contact an experienced reptile veterinarian. If you do not have a reptile veterinarian, contact the Adobe Mountain Wildlife Rehabilitation Center (623-582-9806) for a referral in your area.

Learn what is normal for the animal. For instance, they sometimes have a white to dark brown powdery material in their urine, which is not a sign of illness, but it is a normal way of getting rid of uric acid. They should have regular stools, which are dark in color and well formed.

Always wash your hands after handling the tortoise. All reptiles may carry some salmonella, a bacteria that can cause illness in humans. Simple precautions such as hand washing can prevent infection

Respiratory Illness

Tortoises are susceptible to pneumonia and other respiratory ailments. Respiratory disease is often associated with stress, contact with infected animals and poor nutrition. Sitting in wet ground contributes to respiratory illness. The animal can be infected when it comes in contact with infectious organisms such as mycoplasma or bacteria. Some animals may not show signs but may carry the disease. Upper respiratory disease signs are inactivity, runny nose, labored breathing, sneezing, wheezing, occasional coughing, plugged nostrils or nares and loss of appetite. Therefore, mixing animals is not advisable. Upper respiratory disease causes problems by destroying the upper respiratory passageways, even bone. Tortoises that can't smell usually won't eat. Starvation further decreases immunity and thus reduces the ability to fight infection. The animal develops a lung infection, which can be very severe. Diagnosis is based on clinical signs, cultures, and x-rays. If there is any doubt please consult a reptile veterinarian.

Parasites

Parasites are also common in tortoises. If their presence is suspected, consult a veterinarian immediately. Signs are usually listlessness accompanied by a pale mouth (white tissue instead of pink) weight loss and abdominal stress. Hookworms and pinworms are common parasites. Consult your veterinarian.

Vitamin A Deficiency

Another common problem is vitamin A deficiency. Signs include swollen or puffy eyes and a runny nose. Therefore, problem cases should be referred to a veterinarian.

Metabolic Bone Disease (Calcium Deficiency)

A soft-shell is a sign of Metabolic Bone Disease. Again, if you suspect this condition, consult your veterinarian.

Shell Trauma

Fractured or cracked shells are a treatable problem sometimes affecting tortoises. Please see a veterinarian. Please do not induce shell trauma by painting or putting oil on the shell. Please do not drill holes or attempt to tether or restrain the tortoise by wire or rope.

Warm Weather Care

As the weather warms up, tortoises slowly become active. At this time, the tortoise should be allowed a long drink and soak in shallow water. Tortoises can drink with their face under water for a long time. Within a few weeks, it will resume its warm weather routine of eating, basking and exercise. In warm weather a tortoise may dig a shallow burrow in the soil. This provides the tortoise with some shelter from the summer sun. He may also sleep there at night. The tortoise will enjoy a plant such as Fountain

Grass to sit under in the shade, providing safety and shelter. Be sure the tortoise has a dry area always available in the enclosure as well as his den or burrow.

Cold Weather Care

In Arizona, tortoises should be kept outdoors, year round. As the weather turns cool in the fall, the tortoise will prepare to hibernate. Its appetite will decrease and the tortoise will gradually become less active as it is preparing for hibernation. It should eventually stop eating, as there should not be any food in the system when it goes into hibernation. However, water should be available at all times. If it has eaten well during the summer months, it will have a fat reserve built up and should easily survive during the winter hibernation.

A well-constructed den is an asset in retaining the moisture, which the desert tortoise needs to sustain his internal water supply. You should choose the driest and highest place in your yard. The den must be located where it will *not flood*, and be strong enough to prevent it from collapsing. Your Tortoise may wander out of the den during the winter for a drink that should be available, or to bask in the sun on warm days. Do not feed your tortoise during this time. Food in the stomach does not digest and can cause infection. . Hibernation usually lasts from early November through mid to late February in the Phoenix area, although unseasonably warmer or cooler temperatures may shorten or lengthen the hibernation time.

ONCE A CAPTIVE, ALWAYS A CAPTIVE.

Current research has shown that urban tortoises, released back to the wild do not survive. Worse yet, in the wild they can spread diseases they catch in captivity (such as the Upper Respiratory Tract Disease) to other tortoises. Therefore, captive held desert tortoises are *not released* to the wild. Remember it is also against the law. Commission Order 43.

Reminders

Please do not breed desert tortoises. Approximately 200 each year are available throughout the state for adoption and we have more tortoises than good homes. There is no waiting list to adopt tortoises.

If you move, please send us a change of address/phone number so that if your tortoise is found away from home, we can contact you to reunite it with your family. Be sure to note on the card that you have a desert tortoise and include its Avid Chip number. Send the change of address to: Coordinator, Adobe Mountain Wildlife Center, 2221 W. Greenway Rd., Phoenix, AZ 85023-4399.

References:

Dr. James L. Jarchow, D.V.M. Tucson, AZ
Sonoran Desert Museum, Tucson, AZ
Arizona Game and Fish Wildlife Biologists
National Turtle and Tortoise Society, Phoenix Chapter
Adobe Mountain Wildlife Center

Attachment # 2

1/20/04

General Considerations for Desert Tortoise Den Designs

Strategies

In the wild, Desert Tortoises use mutable dens throughout the year.

It has been observed that in captive tortoise environments with only 1 den, the tortoise will often dig a second den. More than 1 den will give the Tortoise a choice of either a warmer or cooler environment at different times of the year. Our recommendation is multiple dens with different orientations for each tortoise.

The purpose of “shady location” requirement for single den designs is to provide a consistently cool environment for hibernation.

In the wild, Sanoran Desert Tortoises look for, or builds dens that are snug and will allow the tortoise to wedge itself into a corner near the back of the den, as a result your tortoise will prefer a snug tight fitting den over a more palatial home.

All dens must be dry. Dens that are damp may make your tortoise susceptible to a number of ailments that may necessitate expensive vet bills, or if left untreated may result in the death of your tortoise. Dens in flood-irrigated yards must be 2 feet above and 8 feet away from the flood zone.

Construction Considerations

Den construction materials should be strong enough to support the weight of the dirt insulation on the top of the den. Den construction materials should also be durable enough to last a long time.

In some instances, wood is a material of choice, it should be remembered that our desert environment has a lot of termites, and wood based materials may not last the life of the tortoise.

If wood is used for the roof of a cinderblock den, remember that three thicknesses of half-inch plywood are better than two thickness, and four thicknesses are better yet.

The purpose of patio block floors in cinderblock dens is to keep the tortoise from excavating under a cinderblock and having the block fall on the tortoise. 8 x 8 x 16 cinderblocks weigh about 46 pounds each and could trap, injure, or possibly kill the tortoise.

In cinderblock dens, floors with 8 inches of dirt on top will give the tortoise a chance to dig to a cooler range within the den without dislodging a wall block.

When using dirt for den roofs, some strategically placed rocks along the sides and top will make the den more natural and appealing to the Desert Tortoise as well as help it blend in with desert landscaping. The rocks will also help keep your Tortoise from trying to excavate another den in the mound.

10, or 12 inch plastic or tile pipe, or galvanized culvert pipe ripped length wise, and about 1 1/2 to 2 feet long, blocked at one end, and with no floor makes a good den when set on dirt pad 8 inches above ground level and covered with 12 inches of dirt. See alternate den designs in attachment 3.

When using plastic pipe or plastic buckets, you should use some rocks to provide an overhang to shade the plastic. Our Arizona suns ultraviolet rays are very hard on plastic and will cause the plastic to become brittle in a few years. By shading the plastic you insure that the den will last a long time.

All dens should be set at least 8 inches above grade to allow water to drain away from the den opening, and to keep the den dry during irrigation and rain.

See attachment # 3 for a number of proven den designs. Numerous additional den designs are possible using variations of the attached designs. Remember, all dens have to meet the requirements for strength, safety for the tortoise, dryness, and insulating value.

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Attachment 3

1-27-04

Desert Tortoise Den Designs

Tortoise Den Design #1

Supplies

If the den is to be built against an existing cinder block wall (**Option 1**)

- 13 8"x 8" x 16" concrete cinder blocks
- 5 2"x 8"x 16" patio blocks
- 1 and 1/2 " x 32"x 48" exterior plywood (this can be three 1/2" pieces)
(1 sheet of 1/2" plywood 4' X 8' can be cut into 3 equal pieces 32" X 48")
(Home Depot or Lows will cut it for you for free)
- 1 48"x 48" sheet of tar paper (or 2 sheets 36" X 48" and overlapped)
- 1 48"x 48" sheet heavy plastic (or 2 sheets 36" X 48" and overlapped)

If the den is to be built as a stand alone structure (**Option 2**)

- 16 8"x 8" x 16" concrete cinder blocks
- 2 8"x 8" x 8" concrete cinder blocks (half blocks)
- 5 2"x 8"x 16" patio blocks
- 1 1 and 1/2 " x 32"x 48" exterior plywood (this can be three 1/2" pieces)
- 1 48"x 48" sheet of tar paper (or 2 sheets 36" X 48" and overlapped)
- 1 48"x 48" sheet heavy plastic (or 2 sheets 36" X 48" and overlapped)

Directions

- 1) If possible chose a shaded area in which to build the den.
- 2) Begin by building a raised flat pile of dirt about 40"wide by 55"long and 8 inches high above ground level.
- 3) **Option 1** (Den built against existing cinder block wall) Lay out the rectangular footprint of the den 32" wide, by 48" long, using the 6 of the 8" x 8" x 16" cinder blocks on top of the pile as shown in **figure 1**
- 4) **Option 2** (Den built as a stand alone structure) Lay out the rectangular footprint of the den 32" wide, by 48" long, using the 9 of the 8" x 8" x 16" cinder blocks on top of the pile as shown in **figure 1.a** In Option 2, the footprint is identical to Option 1 with an additional block between the 2 walls forming the back of the den on the first coarse. On the second coarse, 2 blocks are used on the back.
- 5) Place the 5 patio blocks between the first wall course. The patio blocks will serve as the den floor.

- 6) Place the second course of cinder block on top of the first course of blocks making sure you overlap the joints. These will form the den walls. Be sure to fill the holes in the cinder blocks with dirt or gravel to provide insulation and rigidity for the den walls.
- 7) **Option 1:** Place the second course of cinder block on top of the first course of blocks. These will form the den walls. Be sure to fill the holes in the cinder blocks with dirt or gravel to provide insulation and rigidity for the den walls.
- 8) **Option 2:** Place the second course of cinder block on top of the first course of blocks making sure you overlap the joints. These will form the den walls. Be sure to fill the holes in the cinder blocks with dirt or gravel to provide insulation and rigidity for the den walls.
- 9) Place one block crosswise in the den opening (holes up). Fill this block as well as the inside of the den with dirt to the top of crosswise block at the den opening. The dirt will allow the Tortoise to dig down to a comfortable level.
- 10) The roof of the den will be composed of several materials stacked on one another. Cover the top of the den with the plywood, followed by the tar-paper and then the plastic sheet as shown in the detail of **figure 1.b**

Now you must cover the den with dirt. After each layer of dirt, sprinkle lightly with water to help the dirt solidify. While you are covering the den top, dirt will spill down the sides and back of the den. This is desired, and it effectively forms a large mound that surrounds the cinder blocks and helps to insulate the den. When finished, you should have around 16 inches of dirt on top of the den and it should look something like **figure 1a**. Your tortoise will enjoy sitting on top of the den, so when covering, don't make the sides too steep. By pressing rocks into the dirt you will help keep the dirt stable as well as keep the tortoise from digging extra dens in the mound.



Figure 1 Option 1 (Den built against existing cinder block wall)



Figure 1a: Above den covered with dirt and rock



Figure1b3: Detail of roof showing 3 layers of ½ inch plywood , then the tar paper and finally the plastic.

Tortoise Den Design #2

Supplies

- (1) 10", or 12" plastic or tile pipe, or corrugated culvert section, 1 1/2 to 2 feet long

Directions

- 1) If possible chose a shaded area in which to build the den.
- 2) Rip the pipe or culvert section in half lengthways. (To rip tile pipe you will need a diamond saw blade.)
- 3) In the area chosen for the den site, make a **flat topped** pile of dirt 8 inches high above grade, 20 inches wide, by 48 inches long.
- 4) Set the half pipe or culvert section, open side down, centered on the flat topped pile of dirt. Block one end of the pipe or culvert section with a patio block of some other durable obstruction.

Option 2: Set the half pipe or culvert section, open side down with the back end of the pipe against the cinder block wall, **figure 3**

- 5) Now you must cover the den with dirt. After each layer of dirt, sprinkle lightly with water to help the dirt solidify. Begin by piling the dirt on top of the den until you have a dirt mound 16 inches from the top of the den. While you are covering the den top, dirt will spill down the sides and back of the den. This is desired, and it effectively forms a large mound that helps insulate the den. The finished den should look something like **figure 3a**. Your tortoise will enjoy sitting on top of den, so when covering, don't make the sides too steep.



Figure 3



Figure 3a (option 2)

Bucket Construction

(These instructions show you how to use common 5 gallon plastic buckets instead of 10 or 12 inch plastic pipe.)

Supplies (for each den)

- 3 Clean 5 gallon plastic buckets. You can get clean 5 gallon plastic buckets at Home Depot or Lows for about \$4.00 each. You may use “used buckets”, but they must be CLEAN and smell ”fresh”. Any caustic residue will be harmful to the tortoise.
- 4 10-32 x 1” or ¼-20 x 1” screws and nuts

NOTE: You will need 3 buckets and 4 screws and nuts for each den you build. If your plan calls for 3 dens, you will need 9 buckets and 12 screws and nuts. If the plan calls for 4 dens, you will need 12 buckets and 16 screws and nuts..

Directions

Begin construction by removing the wire handles (bales) from the buckets.

- 11) Using a hand saw, power hand saw, or table saw to rip the buckets length wise as shown in **figure 11**.
- 12) Using a reciprocating saw, (jig saw), remove the ends of 5 of the 6 bucket halves, as shown in **figure 12**.
- 13) Nest the 5 bucket halves (with ends removed) inside the sixth bucket half, (with end intact as shown in **figure 13**. Six bucket halves will give you a 31” long den shaped like a half circle, or conveniently, the shape of the back, or carapace of your tortoise.
- 14) With the nested buckets laying on the ground with the open sides down, drill a hole, (the appropriate size for your screws), threw the forth bucket in the nest from the open end. The screw hole should be 1 inch from the cut side and through any one of the 3 flat spaces between the ridges on the top of the bucket. You will notice that you will be drilling through 4 bucket layers, so go slow and make sure your buckets stay aligned.
- 15) After installing the first screw in the hole with the nut side out, drill a corresponding hole on the other side of the bucket and install the second screw, nut side out.
- 16) Drill the third hole through the last bucket in the nest. The screw hole should be 1 inch from the cut side and through any one of the 3 flat spaces between the ridges

on the top of the bucket. Make sure your screw location allows you to drill through 4 bucket layers.

- 17) After installing the third screw in the hole with the nut side out, drill a corresponding hole on the other side of the bucket and install the forth screw, nut side out.

The following pictures show details of the bucket construction.



Figure 1: Under side of assembled bucket halves



Figure 2: Top side of assembled bucket halves

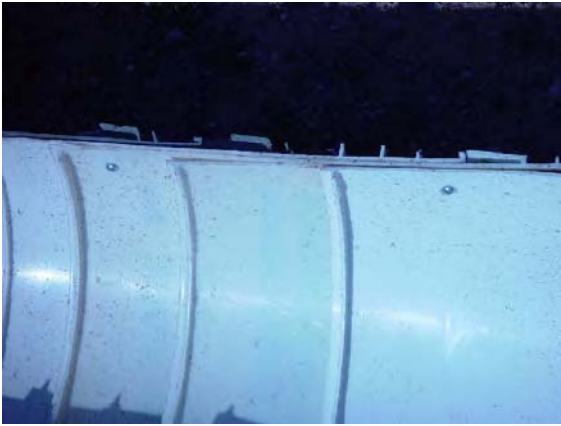


Figure 3: Shows screw and nut detail

Various Optional Designs

(These pictures show you various design lay-outs using common 5 gallon plastic buckets as well as 10 or 12 inch plastic pipe.)

Directions for plastic bucket or pipe dens:

All dens must be built on a raised dirt bed 8 to 10 inch above ground level.

Ramps should be built to allow the tortoise entry into the den.

All dens must be covered with dirt preferably 18 inches deep over the plastic.

Rocks should be used to shade the plastic entrance holes.

Rocks should be pressed into the sides and top of the den to help stabilize the dirt and to keep the tortoise from excavating his own den in the dirt mound.

The slope on the sides of the dirt mound should be shallow enough to allow the tortoise to clime to the top of the den mound.

The top of the den mound should be flat enough to allow the tortoise to bask in the sun and to turn around.

Note: As you can see form the pictures the den designs are only limited by your creativity. Dens can be incorporated into existing backyard landscaping and can be the focal point of the back yard, or they can be benign and not very noticeable, or they can be anyplace in-between.



Figure a: Single den perpendicular to a block wall



Figure b: Single den against a block wall



Figure c: Single den standing alone



Figure d: Double dens in the corner of a block wall



Figure e: Double dens standing alone



Figure f: Triple dens in a corner of a block wall



Figure g: Triple dens standing alone



Figure h: 4 dens standing alone



Figure i: Single den against a cinderblock wall



Figure j: Double dens in the corner of a cinderblock wall



Figure k: Triple dens in the corner of a cinderblock wall

Attachment # 4

1/26/04

TOXIC PLANTS

Here is a list of plants that are generally believed to be toxic to herps. It is taken from Frye and Townsend's "Iguanas: A Guide To Their Biology and Captive Care", copyright 1993 by Krieger Publishing Company, ISBN0-89464695-8

Note: This information has been modified from a list compiled by the International Turtle and Tortoise Journal, May-June, 1969, a compilation by the San Diego Poison Information Center, University of California, San Diego, and the San Diego Turtle and Tortoise Society, published in the Tortuga Gazette, January, 1982. Also see Garner, 1961; Hulbert & Oehme, 1961; Tucker & Kimball, 1961; and U.S. Dept. of Agriculture, 1958.

Plant name	Toxic portion(s)
Acokanthera	Flowers and fruit
Aconite (monk's hood)	Roots, flowers, leaves and seeds
Amaryllis	Bulb, stem, flower parts
Amsinckia (Tarweed)	Foliage and seeds
Anemone	Leaves, flowers
Apple (seeds only)	Seeds (only if crushed)
Apricot (seeds only)	Inner seeds
Autumn crocus	Bulbs
Avocado	Foliage
Azalea	Foliage, flowers
Baneberry	Foliage, fruits
Beach pea	Foliage, peas, and pods
Betal nut palm	All parts
Belladonna	Berries and other parts
Bittersweet	Berries
Bird of paradise	Foliage, flowers, seed pods
Black locust	Bark, sprouts, and foliage
Bleeding heart	Foliage, flowers, and roots
Bloodroot	All parts
Bluebonnet	Foliage and flowers
Bottlebrush	Flower parts
Boxwood	Foliage and twigs
Buckeye horse chestnut	Sprouts and nuts
Buttercup	All parts
Caladium	All parts
Calla lily	All parts
Cardinal flower	All parts

Carolina jessamine	Foliage, flowers, and sap
Casava	Roots
Castor bean	Uncooked beans
Chalice or trumpet vine	All parts
Cherry (inner seeds only)	Inner pit seeds
Cherry laurel	Foliage and flowers
China berry tree	Berries
Christmas berry	Berries
Christmas cactus (Euphorbia)	Entire plant
Christmas rose	Foliage and flowers
Columbine	Foliage, flowers, seeds
Common privet	Foliage and berries
Coral plant	All parts
Crocus	Bulbs
Croton	Foliage, shoots
Cyclamen	Foliage, stems, and flowers
Daffodil	Bulbs, foliage, flowers, and pods
Daphne	Berries
Death camus	All parts are toxic; esp. roots
Deadly nightshade	Foliage, unripe fruit, sprouts
Delphinium	Bulbs, foliage, flowers and seeds
Destroying angel (death cap)	All parts of the mushroom
Dogwood	Fruit mildly toxic
Dumb cane (Dieffenbachia)	Foliage
Eggplant	Foliage only
Elderberry	Leaves, bark, and shoots
Elephant ear (taro)	Foliage
English ivy	Esp. berries
Euphorbia (spurge(s))	Foliage, flowers, latex-like sap
False hellebore	All parts
Fiddleneck (Senecio)	All parts
Fly agaric (amanita, deathcap)	All parts (cap and stem)
Four o'clock	All parts
Foxglove	Foliage and flowers
Gelsemium	All parts
Golden chain	Seeds and pods
Hemlock roots (water & poison)	All parts
Henbane	All parts
Holly, English and American	Foliage and berries
Horse chestnut	All parts
Horsetail reed (Equisetum)	All parts
Hyacinth	Bulbs, foliage and flowers
Hydrangea	All parts
Impatiens (touch-me-not)	All parts
Iris (flags)	Bulbs and roots, foliage and flowers
Ivy (all forms)	Foliage and fruit

Jack-in-the-pulpit	Roots are mildly toxic
Jasmine	Foliage and flowers, esp. nectar
Jasmine, star	Foliage, flowers
Jatropha	Seeds and oily sap
Jerusalem cherry	Foliage and fruit
Jessamine	Berries
Jimson weed (thorn apple)	Foliage, flowers and pods
Johnson grass, wilted	All parts
Lambkill (sheep laurel)	Foliage
Lantana camara	Foliage, flowers, and esp. berries
Larkspur	Entire young plant; seeds & pods
Laurel	All parts
Lily of the valley	Foliage and flowers
Lobelia	All parts
Locoweed	All parts
Locust(s)	All parts
Lupine	Esp. seeds and pods, foliage
Machineel	All parts
Marijuana	All parts
May apple	Fruit
Mescal	All parts may be toxic
Milk weed	Foliage
Mistletoe	Foliage and berries
Moccasin flower	Foliage and flowers
Monkshood	Entire plant, including roots
Moonseed	Berries
Morning glory	Foliage, flowers, and seeds
Mountain laurel	Young leaves and shoots
Mushrooms (some wild forms)	Entire cap and stem
Narcissus	Bulb, flowers
Natal cherry	Berries, foliage
Nectarine (inner seed only)	Only inner pit seeds
Nicotine, tree, bush, flowering	Foliage and flowers
Nightshades	All parts, esp. unripe fruits
Oak trees	Leaves and acorns
Oleander	Foliage, stems, and flowers
Peach (inner seed only)	Inner pit seeds
Pear (seeds only)	Seeds (only if crushed)
Pennyroyal	Foliage and flowers
Peony	Foliage and flowers
Periwinkle	All parts
Philodendrons, some species	All parts
Pinks	All parts
Plum (seeds only)	Inner seeds; foliage can be toxic
Poinsettia	Foliage, flowers and latex sap
Poison hemlock	Foliage and seeds

Poison ivy	Foliage and fruit
Poison oak	Foliage and fruit
Poison sumac	Foliage and fruit
Pokewood or pokeberry	Roots, fruit
Poppy (except California)	All parts
Potato	Raw foliage and sprouts ("eyes")
Privet	Berries, foliage
Redwood	Resinoids leached when wood is wet
Rhubarb	Uncooked foliage and stems
Rhododendron	Foliage and flowers
Rosary pea	Foliage, flowers and peapods
Rosemary	Foliage in some species
Russian thistle	Foliage and flowering parts
Sage	Foliage in some species
Salmonberry	Foliage and fruit
Scarlet pimpernel	Foliage, flowers and fruit
Scotch broom	Seeds
Senecio ("fiddle neck")	All parts
Skunk cabbage	Roots
Snapdragon	Foliage and flowers
Spanish bayonet	Foliage and flowers
Squirrel corn	Foliage, flowering parts, and seeds
Sudan grass, wilted	All parts
Star of Bethlehem	Foliage and flowering parts
Sundew	Foliage
Sweetpea	Stems
Tansy	Foliage and flowers
Taro (elephant ears)	Foliage
Tarweed	Foliage and seeds
Tiger lily	Foliage, flowers, and seed pods
Toad flax	Foliage
Tomato plant	Foliage and vines
Toyon berry	Berries
Tree of heaven	Foliage and flowering parts
Trillium	Foliage
Trumpet vine	All parts
Tulip	Bulb, foliage, and flowering parts
Venus flytrap	Foliage and funnel flowering parts
Verbena	Foliage and flowers
Vetch (several forms)	Seeds and pods
Virginia creeper	Foliage and seed pods
Water hemlock	Roots and foliage
Wild parsnip	Underground roots and foliage
Wisteria	Foliage, seeds, and pods
Yellow star thistle	Foliage and flowering parts
Yew	Foliage

Attachment # 5

1/20/04

Frequently Asked Questions About Desert Tortoise Adoptions

“I have a Dog(s); can I adopt a Desert Tortoise?”

If you have dogs, they must be fenced separately from the Tortoise. We have seen numerous cases where “friendly and well behaved” dogs have mauled Desert Tortoises, necessitating expensive Veterinarian bills. In some cases, the mauling is so severe; the Tortoise has to be euthanized.

“I have a pool in my back yard; can I adopt a Desert Tortoise?”

If you have a pool or spa, you must fence the Tortoise out of the pool-spa area. The fencing must be at least 16” high (2 cinderblocks high.) Desert Tortoises do not swim. If they get into your pool or spa, they will sink to the bottom like a rock and drown.

“What should I feed my Desert Tortoise?”

The Desert Tortoise is a vegetarian. In captivity, your Tortoise will do very well on a diet of Bermuda grass, alfalfa, barley, clover, as well as dandelion greens, rose blooms, hibiscus, (both leaves and blossoms), carrot tops and mulberry leaves. For a special treat, (once a month or so,) you can give him a **small** piece of fruit such as 1 strawberry, 1/4 of peeled banana, 1/4 slice of peeled cantalope, etc. Fruit should not be a staple part of the Tortoises diet.

“What should I not feed my Desert Tortoise?”

The Desert Tortoise is a vegetarian; do not feed him dog or cat food, monkey chow, or any food that contains more than about 15% protein. Do not feed your Tortoise iceberg lettuce.

“What happens if I feed my Desert Tortoise dog or cat food or any other food that is high in protein?”

Eating dog or cat food, or any food that contains more than 15% protein will cause liver and kidney damage as well as distorted shell growth. Food with high protein content will shorten the life of your Desert Tortoise and he will die from liver and kidney failure.

“When I get my Desert Tortoise home, how should I introduce him to his new home?”

First put your Tortoise in its enclosure, setting him in front of and facing his den. He will probably immediately go into the den to check it out for a while, then he will come outside to explore his new world. Make sure there is water available in the enclosure at all times. Try to keep the water in the same place all the time so the Tortoise knows where to find it.

“My property is irrigated; can I adopt a Desert Tortoise?”

You can have a Desert Tortoise in an irrigated back yard as long as the Tortoise den is 8 feet away from the water and raised up two feet above ground level so it stays completely dry during irrigation. A damp den will cause your tortoise to become susceptible to various respiratory ailments that require visits to the Veterinarian for treatment. These ailments, if left untreated could result in the death of the Tortoise.

My Desert Tortoise sleeps all winter; is that normal?”

Yes this is normal. In the wild Desert Tortoises hibernate from November into March or April of the next year.

“Some times my Desert Tortoise wakes up from hibernation and just sits in the sun then goes back to sleep; is he all right?”

Yes this is normal. If we have a few days of real warm weather, some tortoises will come out of their dens to bask in the sun for a few hours. Do not attempt to feed your tortoise at this time, but make sure water is available to them.

“Sometimes my Desert Tortoise doesn’t come out very much during the day at all; is this normal?”

The Desert Tortoise is a reptile, and as such, can’t regulate his body temperature. In the wild, during the hot summer, most Tortoises come out briefly to feed in early morning and early evening when it is cooler.

“How long will my Desert Tortoise live?”

No one knows for sure how long Desert Tortoises live in the wild, but in captivity, they live for a very long time. It is safe to say, that with good husbandry, your Desert Tortoise will probably out live you.

“My Desert Tortoise has a runny nose; what should I do?”

Your Desert Tortoise is ill. Contact an experienced reptile Veterinarian. Failure to treat this condition could result in the death of your Tortoise. If you don't know a reptile Veterinarian, call Adobe Mountain Wildlife Rehabilitation Center at (602) 582-9806 for a referral in your area.

“My Desert Tortoise has swollen, red, or mucus around the eyes, and seems to have trouble breathing; is this normal?”

Your Desert Tortoise is ill. Contact an experienced reptile Veterinarian. Failure to treat this condition could result in the death of your Tortoise. If you don't know a reptile Veterinarian, call Adobe Mountain Wildlife Rehabilitation Center at (602) 582-9806 for a referral in your area.

“My Tortoise Den is not exactly like the ones you show in your plans; can I still adopt a Desert Tortoise?”

Yes, you can still adopt a Desert Tortoise? The Tortoise Den examples and the document entitled ‘General Considerations for Den Designs’ were built to act as guidelines in helping you construct your Tortoise den.

Remember, all Tortoise dens need to meet the requirements for strength, dryness, insulating value, and safety for the Tortoise.

“My yard is bordered by a wooden fence. Can I still adopt a Desert Tortoise?”

Your fence must have a footer. The footer t can be cement or you can trench down a foot and install ¼ or ½ machine cloth to the bottom of the fence. This is the same material that is used in rabbit hutches.

“My yard is bordered by a chain link fence. Can I still adopt a Desert Tortoise?”

Your fence must have a footer. The footer can be cement or you can trench down a foot and install ¼ or ½ machine cloth. This is the same material that is used in rabbit hutches.

With a chain link fence, you should have some type of visual barrier that is at least 16 inches high against the bottom of the chain link. This visual border can be blocks, opaque Plexiglas, metal or wood. Etc. If a tortoise can see out of his enclosure, he will try to escape. Also with chain link or wire fencing he will be able to get his head through the fence and will injure him/herself on the wire. If he can't see out he will not try to escape.

“My back yard is flood irrigated once a week in the summer. Can I still adopt a Desert Tortoise?”

In a yard that is flood irrigated, the den must be at least 8 feet away from and at least 2 foot higher than the area that is being flood irrigated. It is critical that the den remain dry and that the tortoise has a dry place to bask..

“I have a fishpond in my back yard. Can I still adopt a Desert Tortoise?”

If you have a fishpond in your back yard that is ground level, you must fence the Tortoise out of the pond area. The fencing must be at least 16” high (2 cinderblocks high.) Desert Tortoises do not swim. If they get into your pond, they will sink to the bottom like a rock and drown.

Jim Shurtliff
Arizona Game and Fish Volunteer
(623) 587-0502
j.Shurtliff@att.net

2/3/04

**APPLICATION FOR FOSTERING A
DESERT TORTOISE**

Name: _____

Address: _____

(City) (State) (Zip Code)

Phone Numbers: (Home) _____ (Work) _____

Email: _____

Your closest MAJOR cross streets to your home (e.g. Thomas & Central)

Have you ever cared for a desert tortoise? Yes _____ No _____

If yes, do you still have the tortoise in your possession? _____

If not, what became of it? _____

Will the tortoise be used for educational purposes? Yes _____ No _____

If yes please explain: _____

Wildlife Center at Adobe Mountain makes a good faith effort to place only healthy Desert Tortoises. At the time of the adoption, it becomes the responsibility of the adoptee to provide for the animal. By submitting this application, I give permission for review by a Department representative to view my yard for suitability of the Desert Tortoise habitat. The best day and time for a site visit is: _____

I understand that I will be responsible for the safety and well being of the Desert Tortoise, including any necessary veterinary care. Further, I agree to comply with State regulations, (see cover letter reference A.R.S. Sec.17-306-Importation, transportation, release or possession of live wildlife, and Commission Order 43-R12-4-407.1.)

Signature: _____ Date: _____

Would you like an AVID™ chip implanted in your tortoise for \$12.00?
YES _____ NO _____

In the event that your tortoise should escape or become misplaced and subsequently be turned into a Veterinarian or be returned to the Wildlife Center at Adobe Mountain, the chip can be read and the tortoise returned to you

WHEN YOUR YARD AND DEN ARE COMPLETED, PLEASE ENCLOSE THE FOLLOWING INFORMATION ALONG WITH THIS APPLICATION:

- ✓ **Completely describe your yard.**
- ✓ **Completely describe your fencing.**
- ✓ **Completely describe the hibernation structure.**
- ✓ **Send two (2) photographs. (One of your backyard and the other of the hibernation den.)**

Return Photos, Information & Application to:

Arizona Game and Fish Department's
Wildlife Center @ Adobe Mountain
Attn.: Desert Tortoise Program Manager
2221 W. Greenway Rd.
Phoenix, Arizona 85023-4399

For Official Use
Application Rec'd: _____
Response Date: _____
Site Approval Date: _____
Permit Issued Date: _____
Animal Acq. No: _____
Avid™ Chip No: _____